REMARKS

Claims 1-3, 17, 18, and 21 are pending in the application. Claims 4-16, 19, and 20 have been canceled as being drawn to a non-elected invention.

Rejection Under 35 U.S.C. § 103

Claims 1-3, 17, 18, and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,439,824 to Harris et al. ("Harris") in light of the existence of the "modulus division system." As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." (emphasis added). Furthermore, under MPEP § 2142, "[i]f the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness." It is submitted that the Office action does not factually support a prima facie case of obviousness based on the cited references for the following reasons.

Claim 1 recites:

> A method for identifying a tank containing a liquid from N number of tanks in a semiconductor manufacturing facility into which a batch of semiconductor products is to be processed, the method comprising:
> receiving an incoming batch of products to be processed in a predetermined number of tanks housing the liquid;
> identifying a batch number of the batch;
> determining with a controller a recipe index from a modulus of N divided by the batch number; and
> determining with the controller the tank into which the batch is to be processed from the modulus of the sum of the recipe index and the predetermined number of tanks, divided by N.

As admitted in the Office action, Harris fails to "specifically show that this tank is selected by identifying the batch number, finding the remainder when the batch number is divided by the number of tanks, and using that tank number." (Office action, page 4, para. 4).

Although Applicant submits that this is a gross oversimplification of the actual claim elements (e.g., identifying a batch number of the batch, determining with a controller a recipe index from a modulus of N divided by the batch number, and determining with the controller the tank into which the batch is to be processed from the modulus of the sum of the recipe index and the predetermined number of tanks, divided by N), the Office action is basically admitting that Harris fails to teach or suggest three of the four elements of claim 1. To remedy the deficiencies of Harris, the Office action states that "[w]hile this calculation is not described in Harris, the use of the modulus decision system is a well-known and inherent concept in many everyday tasks, though never described as such." (Office action, page 4, para. 5). Furthermore, the Office action states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to use the modulus division system as well known in the art as a way to decide the destination tank of Harris because of the known mathematical theory of congruency … which explains that when any two numbers leave the same remainder when divided by another number, they are said to be congruent (or 'equivalent') to each other in that specific application." (Office action, page 6).

<u>The cited combination fails to teach or suggest each claim element</u>

Applicant submits that combining the modulus division system with Harris pursuant to the mathematical theory of congruency does not teach or suggest every limitation as required by MPEP § 2143. In fact, the Office action's summary of the elements of claim 1 not disclosed by Harris is simply incomplete (Office action, page 4, para. 4). For example, the summary fails to recognize the element reciting "determining a recipe index from a modulus of N divided by the batch number," and essentially reduces Applicant's invention to "finding the remainder when the batch number is divided by the number of tanks." While the batch number is used in the process of identifying a tank, the statement in the Office action simply ignores certain elements of claim 1 (e.g., the recipe index). Pursuant to this mischaracterization, the example on page 4 of the

Office action totally ignores the determination of a recipe index and then the use of that index in determining a specific tank.

Accordingly, the combination of Harris and the modulus division system fails to teach or suggest each element of claim 1 as required by MPEP § 2143 and claim 1 is allowable over the cited combination. Claims 2, 3, 17, 18, and 21 either depend from or contain similar limitations as claim 1 and are allowable for at least the same reasons as claim 1.

<u>There is no motivation for the cited combination</u>

Furthermore, Applicant submits that the Office action is relying on generally known principles (the modulus division system and the theory of congruency) and is stating that the claimed invention is obvious simply because these principles exist. However, this is not the standard by which the obviousness of a claim is measured. As stated in MPEP § 2144.02, "[a]lthough the theoretical mechanism of an invention may be explained by logic and sound scientific reasoning, this fact does not support an obviousness determination unless logic and scientific reasoning would have led one of ordinary skill in the art to make the claimed invention." Applicant submits that, in the present case, the statement that it "would have been obvious to one of ordinary skill in the art at the time the invention was made to use the modulus division system as well known in the art as a way to decide the destination tank of Harris because of the known mathematical theory of congruency" is in contravention of the standard imposed by MPEP § 2144.02. For example, the Office action fails to state *why* the "known mathematical theory of congruency" would have led one skilled in the art to make Applicant's recited claim 1.

Applicant submits that the Office action's reasoning as to motivation for the combination is a clear case of impermissible hindsight reasoning, as the Office action does not explain *why* the theory of congruency would have motivated one skilled in the art to combine the modulus division system with Harris, much less in the particular manner of claim 1. The case law makes it clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art

references. See *Dembiczak*, 50 USPQ2d, 1614, 1617 (Fed. Cir. 1999). "Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability – the essence of hindsight." *Id.* Accordingly, even if the combination of Harris and the modulus decision system would disclose each element of claim 1 (which Applicant traverses for reasons stated above), it is respectfully submitted that the only way in which Harris and the modulus division system could be pieced together to defeat patentability is to use Applicant's disclosure as a blueprint.

Furthermore, as required by the courts, there must be *particular findings* made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed. *Ecolochem Inc. v. Southern California Edison*, 56 USPQ2d 1065, 1076 (Fed. Cir. 2000). Applicant submits that the Office action provides no particular findings as to why one skilled in the art would identify a batch number of the batch, determine with a controller a recipe index from a modulus of N divided by the batch number, and determine with the controller the tank into which the batch is to be processed from the modulus of the sum of the recipe index and the predetermined number of tanks, divided by N, as recited by claim 1.

Applicant traverses the statement in the Office action that EP 1205578 to Amourette et al. makes it "clear that the use of multiple tanks in a module system was performed prior to applicant's application for a patent and that the combination of Harris below is valid." (Office action, page 4, para. 8). The cited portion of Amourette fails to remedy the deficiencies described above. For example, Amourette fails to teach or suggest why one skilled in the art, relying on the theory of congruency, would combine Harris with the modulus division system to identify a batch number of the batch, determine with a controller a recipe index from a modulus of N divided by the batch number, and determine with the controller the tank into which the batch is to be processed from the modulus of the sum of the recipe index and the predetermined number of tanks, divided by N, as recited by claim 1.

Accordingly, the combination of Harris and the modulus division system as motivated by the mathematical theory of congruency is improper and claim 1 is allowable over the cited combination. As this combination is also used for claims 2, 3, 17, 18, and 21 and is also improper with respect to these claims, claims 2, 3, 17, 18, and 21 are therefore also allowable.

Conclusion

It is respectfully submitted that all pending claims in the application are in condition for allowance. Should the Examiner deem that any further amendment is needed to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the below listed telephone number.

Please grant any extension of time required to enter this response and charge any additional required fees to our Deposit Account No. 08-1394.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 15, 2005.

Gayle Conner